APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/858,080	05/15/2001	Kevin Collins	10006721-1	2538

22879   7590   08/31/2009
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EXAMINER
BATURAY, ALICIA

ART UNIT	PAPER NUMBER
2446	

NOTIFICATION DATE	DELIVERY MODE
08/31/2009	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte KEVIN COLLINS
and RONALD E. POPPEN-CHAMBERS

_____

Appeal 2009-000778
Application 09/858,080[1]
Technology Center 2400

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Decided: August 28, 2009

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Before LEE E. BARRETT, HOWARD B. BLANKENSHIP, and
THU A. DANG, *Administrative Patent Judges.*

BARRETT, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) from the final

rejection of claims 1-21. We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We affirm-in-part.

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[1] Filed May 15, 2001, titled "Method and Apparatus to Manage
Transactions at a Network Storage Device." The real party in interest is
Hewlett-Packard Development Company, LP. Br. 2.

<center>STATEMENT OF THE CASE</center>

The invention

     The invention relates to apparatus and methods for managing a
network storage device (e.g., a network attached storage (NAS) device, a
storage area network (SAN), etc.), at the network storage device itself. A
usage policy is centrally generated at a policy management server and
distributed to one or more network storage devices to prioritize transactions
at the network storage device. Spec. 3, ll. 6-11. For example, incoming
transactions may be ordered among other transactions in a queue for access
to storage at the network storage device. Or, for example, outgoing
transactions may be assigned a priority for handling at the storage device
and/or elsewhere on the network. Preferably, the usage policy includes a
number of rules which define a number of priorities based on meta data
associated with the transaction. Spec. 3, ll. 18-24.

The reference

     Courtright   6,157,963   Dec. 5, 2000

The rejections

     Claims 1-21 stand rejected under 35 U.S.C. § 102(e) as being
anticipated by Courtright.

Claim groupings

     Appellants argue each independent claim separately and do not argue
the separate patentability of the dependent claims. Accordingly, the
dependent claims stand or fall with their respective independent claim.

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PRINCIPLE OF LAW

"Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim. A prior art disclosure that 'almost' meets that standard may render the claim invalid under § 103; it does not 'anticipate.'" *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983) (citation omitted).

FACTS

Courtright describes methods and apparatus for scheduling I/O requests and specifically a system for scheduling I/O requests from workstations to one or more particular storage objects. Col. 1, ll. 7-10.

Input/output (I/O) requests are sent from one or more clients 12 to one or more storage objects 20 under the control of a central storage controller 16. Col. 2, ll. 56-60; Figure 1. The storage controller may be a network-based file server. Col. 3, ll. 1-2.

The controller uses a prioritizing algorithm to place the I/O requests in one of several memory queues 32. Col. 4, ll. 50-67. Each memory queue has a priority, and each client has a priority. "I/O requests may be prioritized by storage user priority, storage object priority, job priority or a combination of all of these factors." Col. 8, ll. 25-27.

The "user of the system may change the priority schemes and/or algorithms used by the system, and the user may change the priorities assigned to the storage users and/or storage objects both prior to I/O processing and dynamically during I/O processing." Col. 8, ll. 31-36. The priorities "may be downloaded to the system . . . through a network environment." Col. 8, ll. 39-41.

ANALYSIS

Claims 1-4

Claim 1 recites:

1.   A method for managing transactions at a network storage device, comprising:

      receiving an incoming transaction at said network storage device;

      assigning a priority to said incoming transaction relative to other incoming transactions at said network storage device based at least in part on a usage policy; and

      overriding said priority with a requested priority included in said incoming transaction.

First, Appellants argue that Courtright does not describe "overriding said priority with a requested priority included in said incoming transaction."

The Examiner finds that "overriding" is taught at column 8, lines 24-42, which describes that a user can dynamically change the assigned priorities during I/O processing. Ans. 7-8.

Appellants reply that claim 1 has three steps that relate to the same incoming transaction and Courtright never teaches "a *same* incoming transaction that undergoes these three steps." Reply Br. 2. It is argued that even though the user can change the priorities in the prioritizing algorithm, the I/O requests in Courtright do not contain a priority that overrides a priority assigned by the prioritizing algorithm. *Id.*

We agree with the Examiner that Courtright's statement that "the user may change the priorities assigned to the storage users and/or storage objects . . . dynamically during I/O processing" (col. 8, ll. 33-36) teaches overriding

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an assigned priority. That is, "the priorities assigned to the storage users and/or storage objects" teaches assigned priorities; "change the priorities assigned" teaches overriding assigned priorities; and changing priorities "dynamically during I/O processing" teaches overriding with a request in an "incoming transaction." Accordingly, Appellants have not shown error as to the overriding limitation.

Second, Appellants argue that Courtright does not describe "assigning a priority to said incoming transaction relative to other incoming transactions at said network storage device" because Courtright expressly teaches assigning priority at the storage controller, not "at" the storage object or network storage device. Br. 8.

The Examiner responds that the storage controller can respond to requests for reading and writing, and thus priority assignments are made "at" the storage controller, which functions as both a storage controller and as a storage object. Ans. 8-9.

We agree with the Examiner that the storage controller 16 in Courtright can be considered part of a "network storage device." That is, the storage controller is analogous to Appellants' agent 30, which manages a NAS device or agent 32, which manages each of multiple associated NAS device, as discussed at Spec. 6, lines 3-12. Accordingly, Appellants have not shown error as to this limitation.

For the reasons stated above, the rejection of claims 1-4 is affirmed.

Claims 5-7

Claim 5 recites:

5.   A method for managing transactions at plural network storage devices, comprising:

> generating a usage policy at a server for said network storage devices;
>
> distributing said usage policy from said server across a network to said network storage devices for prioritizing a plurality of incoming transactions received at said network storage devices relative to one another; and
>
> providing updates to said usage policy from said server to said network storage devices.

First, Appellants argue that Courtright does not teach "generating a usage policy at a server for said network storage devices" and then "distributing said usage policy from said server across a network to said network storage devices." Br. 8. It is argued that the priorities are never distributed to the storage devices in Courtright, but are only sent to the storage controller. *Id.* at 9.

The Examiner finds that column 8, lines 31-36 teaches generating a usage policy at a server. Ans. 5. The Examiner finds that column 8, lines 36-42 teaches that the prioritizing algorithm is distributed to the network storage devices (in particular to the storage controller) through a network environment. *Id.* at 9. The Examiner again states that the storage controller also functions as part of the storage object, and that priority is therefore assigned at a network storage device. *Id.*

Appellants reply Courtright does not teach a <u>same</u> usage policy that is generated at a server, distributed from the server to a network storage device, and that the same server that generated the usage policy then provides updates to the usage policy at the network storage devices. Reply Br. 3. That is, it is argued, the prioritizing algorithm in Courtright is "updated by a user, not generated, distributed, and then updated by a same

server." Reply Br. 3. Appellants also state that "[i]f the storage controller 16 in Courtright is the claimed network storage device, then Courtright fails to teach that the usage policy is generated at a server and then distributed from the server to the network storage device. Also, claim 5 recites that the usage policy is distributed to plural network storage devices." *Id.*

Appellants disclose that a user enters usage policies at a policy management server 80 using a user interface 85 and the server 80 can be used as terminal 70. Spec. 6, ll. 24-29. Thus, "generating a usage policy at a server" requires no more than a user entering a policy at a computer. Courtright teaches that the user may change the priorities "prior to I/O processing" (col. 8, l. 35), which is the same as "generating a usage policy at a server." Courtright teaches that the priorities "may be downloaded to the system . . . through a network environment" (col. 8, ll. 39-41) to the storage controller. Appellants' argument that the priorities are never distributed to a network storage device is based on the argument that a storage controller is not a network storage device. As stated with claim 1, we agree with the Examiner that the storage controller 16 in Courtright can be considered a "network storage device." Thus, we find that Courtright teaches "distributing said usage policy from said server across a network to said network storage device[]." As to the limitation of "*plural* network storage devices," it is implicit that Courtright is not limited to a single system. Courtright discusses providing updates from a server as discussed next. Accordingly, we are not persuaded of error.

Second, Appellants argue that Courtright does not teach "providing updates to said usage policy from said server to said network storage devices" because Courtright is silent with respect to providing updates and

also never teaches that updates are provided "from" the server "to" the storage devices. Br. 9.

The Examiner refers to column 8, lines 36-42, which discusses that a user can change priorities for storage and that this change is downloaded to the "storage controller" over a network. Ans. 10. The Examiner again states that the storage controller also functions as a storage object, and that priority is therefore assigned at a network storage device. *Id.*

Appellants argue that the storage controller, not the storage devices, assigns priorities to incoming transactions. Br. 8.

Appellants' arguments are based on the storage controller not being a network storage device. As stated with claim 1, we agree with the Examiner that the storage controller 16 in Courtright can be considered part of a "network storage device." The user enters updates (changes) at a computer, which can be the same computer used to enter the initial priorities. We do not give weight to whatever computer is being used to send the usage policy being called a "server." The updates (changes) are sent from the user's computer (server) over a network to the storage controller, which is part of a network storage device. Accordingly, we are not persuaded of error.

For the reasons stated above, the rejection of claims 5-7 is affirmed.

Claims 8-12

Claim 8 recites:

8.   An apparatus for managing a plurality of incoming transactions at a network storage device, comprising:

computer readable storage medium at said network storage device;

> a usage policy stored on said computer readable storage medium; and
>
> computer readable program code residing in said computer readable storage medium, comprising program code for prioritizing said plurality of incoming transactions relative to one another based on said usage policy, wherein said prioritizing in said usage policy uses at least two conditions based on (1) user logon, (2) originating application, (3) user-requested priority, and (4) purpose for accessing the network storage device.

First, Appellants note that claim 8 recites that the "usage policy uses at least two conditions based on (1) user logon, (2) originating application, (3) user-requested priority, and (4) purpose for accessing the network storage device." It is argued that Courtright teaches priority based on a priority value assigned to a particular client at column 4, lines 59-67, or "storage user priority, storage object priority, job priority or a combination of all of these factors" (col. 8, ll. 24-27), but nowhere does Courtright teach that priority is based on two conditions recited in claim 8. Br. 10.

The Examiner finds the limitation taught in Courtright at column 8, lines 24-30. Ans. 6. In particular, the Examiner finds that "storage user priority" corresponds to the "(1) user logon" condition and the "job priority" corresponds to the "(4) purpose for accessing the network storage device" condition. *Id.* at 11.

Appellants reply that "Courtright expressly teaches two priority conditions: priority assigned to a client and priority assigned to a memory. Notice that these two conditions are not at least two of (1) user logon, (2) originating application, (3) user-requested priority, and (4) purpose for accessing the network storage device." Reply Br. 4. It is argued that it is

not enough to teach different priority schemes, and Courtright must teach two of the recited priorities to anticipate. *Id.*

Appellants have not argued any error in the Examiner's correspondence of the "storage user priority" and the "job priority" to two claimed conditions. We do not find Appellants' terms defined in the Specification (Spec. 10, ll. 8-16) and the Examiner's reading appears reasonable absent argument to the contrary, especially since the claim language only requires the conditions to be "based on" one of the four items. In addition, Courtright teaches that priority can be based "on a combination of all these factors" (col.8, ll. 26-27), which indicates that priority can be based on the two (or more) conditions. Appellants have not shown error in the Examiner's finding that Courtright teaches two claimed conditions.

Second, Appellants argue that claim 8 requires that the usage policy is stored "at" the network storage device and Courtright stores the policy at the storage controller, not the storage object or network storage device. Br. 10.

As stated with claim 1, we agree with the Examiner that the storage controller 16 in Courtright can be considered part of a "network storage device." Thus, Appellants have not shown error in the Examiner's finding that usage policy is stored at the network storage device.

For the reasons stated above, the rejection of claims 8-12 is affirmed.

Claims 13-19

Claim 13 recites:

13. An apparatus for managing a plurality of incoming and outgoing transactions at a network storage device, comprising:

computer readable storage medium; and

> computer readable program code residing in said storage medium, including program code for defining a usage policy for prioritizing said plurality of incoming and outgoing transactions relative to one another.

Appellants argue that Courtright does not teach "program code for defining a usage policy for prioritizing said plurality of incoming and outgoing transactions relative to one another" because Courtright does not mention how priority is determined for <u>outgoing</u> I/O requests. Br. 11.

The Examiner refers to column 5, lines 7-30.

Appellants argue that this portion of column 5 discusses how incoming requests are prioritized, not how outgoing transactions are prioritized. Br. 11. Appellants further argue that Courtright does not teach prioritizing said plurality of incoming and outgoing transactions "relative to one another." *Id.*

We agree with Appellants that the cited portion of Courtright only discusses prioritizing incoming I/O requests and does not discuss prioritizing outgoing transactions. The closest reasoning we find by the Examiner is that "by virtue of the transactions being prioritized as they come into the system, the order in which they are subsequently sent out is determined." Ans. 12. This reasoning is not persuasive because prioritizing outgoing transactions is separate from prioritizing incoming transactions. Accordingly, we find that Appellants have shown error in the Examiner's finding and this error is dispositive as to claim 13. The rejection of claims 13-19 is reversed.

Claims 20 and 21

Claim 20 recites:

20.   An apparatus for managing a number of incoming and outgoing transactions at a network storage device, comprising:

means for reading meta data from said number of incoming and outgoing transactions at said network storage device; and

means for prioritizing said number of incoming and outgoing transactions based at least in part on said meta data, wherein said prioritizing means resides at said network storage device.

Appellants argue that Courtright does not teach "means for reading meta data from said number of incoming and outgoing transactions at said network storage device" because Courtright does not mention how priority is determined for outgoing I/O requests. Br. 12.

For the reasons discussed in connection with claim 13, we conclude that Appellants have shown error in the Examiner's finding that Courtright teaches prioritizing outgoing transactions. Accordingly, the rejection of claims 20 and 21 is reversed.

CONCLUSION

The rejection of claims 1-12 under 35 U.S.C. § 102(e) is affirmed.

The rejection of claims 13-21 under 35 U.S.C. § 102(e) is reversed.

Requests for extensions of time are governed by 37 C.F.R. § 1.136(b). *See* 37 C.F.R. § 41.50(f).

AFFIRMED-IN-PART

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